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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,563	03/27/2007	Martin Christopher Cook	115427.00009	8026

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EXAMINER	
DINGA, ROLAND	
ART UNIT	PAPER NUMBER
3766	

MAIL DATE	DELIVERY MODE
03/01/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/577,563	COOK ET AL.	
	Examiner	Art Unit	
	ROLAND DINGA	3766	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 April 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *04/27/2006,10/24/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3,6,8-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Watterson et al (US6227797).

Regarding claim1-3, Watterson discloses a rotary blood pump (1) including: a motor adapted to magnetically rotate an impeller (100)[col.5,lines 1-5] within a housing (2)[see fig.1]; characterized in that the housing is formed of a composite material and said composite material includes a first material that is a relatively, insulative, biocompatible and impermeable polymer[col.7,line 3; col.8,lines 62-65].

Regarding claim 8, the impeller is hydrodynamically suspended [col.3, lines 44-46; col.4, lines 50-51].

Regarding claim 6, impeller includes magnets that are encapsulated by an impermeable fluid barrier [col.8, lines 31-38].

Regarding claim 9,Watterson discloses a rotary blood pump including: a motor adapted to magnetically rotate a hydrodynamically suspended impeller within a

housing[col.3,lines 44-46;col.4,lines 50-51], characterised in that the housing is formed of a composite material[col.7,line 3;]., said pump including at least one insulative member disposed between portions of said motor to reduce eddy current losses[col.9,lines 20-28] and said insulative member is substantially formed from a biocompatible and impermeable polymer[col.7,line 3;col.8,lines 62-65].

Regarding claims 10-11, the composite material includes a metal metallic alloy and the metallic alloy is a titanium alloy [col.8, lines 41-43; col.3, lines 64-65].

3. Claims 1-4 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Cao et al (US6158984).

Regarding claims 1-4, Cao discloses a rotary blood pump (10) including: a motor adapted to magnetically rotate an impeller within a housing [col.1, lines 65-67; col.4, lines 18-20[; characterised in that the impeller is form of a composite material [col.3, lines 34-49] and said composite material includes a first material that is a relatively, insulative, biocompatible and impermeable polymer [col.3, lines 47-49]. The insulative member is disposed between portions of the motor to reduce eddy currents loses [col.3, lines 48-51].

Regarding claim 9, Cao discloses a rotary blood pump (10) [abstract; figure 1] including: a motor adapted to magnetically rotate a hydrodynamically suspended impeller within a housing12[col.1,lines 65-67;col.4,lines 18-20]; characterised in

that the impeller (21) is formed of a composite material[col.3,lines 34-49], said pump including at least one insulative member disposed between portions of said motor to reduce eddy current losses[col.3,lines 48-51] and said insulative member is substantially formed from a biocompatible and impermeable polymer[col.3,lines 47-49].

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watterson et al (US6227797) as applied to claim1 above, and further in view of Chen et al (US5511958).

Regarding claim 7, Watterson discloses the invention substantially as claimed but failed to disclose that the first material is PEEK. However, Chen et al discloses a blood pump (100) [abstract and fig.4] and discloses that the pump bulkhead may be formed of a light weight, rigid biocompatible material preferably polyetheretherketone (PEEK)[Col.8,lines 44-49]. Thus, it would have been obvious to one with ordinary skills in the art by the time the invention was made to modify Watterson to have the first material made of PEEK since PEEK is light weight, rigid biocompatible as exemplify by Chen et al.

6. Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Watterson et al (US6227797) as applied to claim1 above, and further in view of Ayre et al (US6866625).

Regarding claim 5,Watterson discloses the invention substantially as claimed but failed to disclose that the first material has been surface modified by treatment of plasma immersion ion implantation. However, Ayre discloses rotary blood pump [see title], Ayre discloses coating applied using plasma immersion ion implantation [col.29,lines 6-10]. Thus,it would have been obvious to one with ordinary skill in the art by the time the invention was made to modify Watterson with the teaching of Ayre to have the first material treated with plasma immersion ion implantation in order to enhance the hardness as exemplify by Ayre,

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROLAND DINGA whose telephone number is (571)270-3644. The examiner can normally be reached on Monday through Friday from 8:30am to 5:00pm EST..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl H. Layno can be reached on 571 272 4949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark W Bockelman/
Primary Examiner, Art Unit 3766

ROLAND DINGA
Examiner
Art Unit 3766
02/22/2010